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ABSTRACT

This handbook is one in a series prepared for use at workshops designed to help teachers, administrators, and legislators understand and deal with the intricacies of school finance equalization plans in their states. Michigan's education finance plan is discussed in this particular book. Chapter 1 discusses how Michigan's plan undertakes its equalization objective--namely, how state aid is distributed to make up for the differences among districts in needs, demands, and abilities to pay. It offers a step-by-step calculation of a district's basic pupil allowance. Chapter 1 also reviews Michigan's categorical aid programs, which make up the remaining 20 percent of state aid to local school districts. Chapter 2 evaluates the impact of the finance plan by discussing the way the plan addresses disparities both in the raising and in the distribution of resources for education. To assist the reader in understanding Michigan's state aid formula, exercises appear throughout. The appendices provide information on guarantees under the school district equalization act and on Michigan's property tax relief system. An answer key to the exercises is also provided. (Author/LD)

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MONEY AND EDUCATION

A GUIDE TO MICHIGAN SCHOOL FINANCE

by
Donald McMaster
Judy G. Sinkin

September 1979

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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PREFACE

This publication is the result of a National Institute of Education grant to the American Federation of Teachers who worked in cooperation with the Educational Policy Research Institute of the Education Testing Service.

A "Guide to Michigan School Finance" is one of a series of handbooks prepared for use at workshops designed to assist teachers, administrators, legislators and other interested parties in understanding and dealing with the intricacies of school finance equalization plans in their states. In the past these issues have been debated in relative isolation by a handful of experts.

States were selected for analysis either because they are currently undergoing significant changes in their education finance systems or because current within state disparities suggest that new finance legislation may soon be considered. Workshops have been conducted in California, Florida, Illinois, Michigan, Ohio, New York, Pennsylvania, Rhode Island and Texas and work will continue in two additional states this year.

It is our hope that through the dissemination of these handbooks, to a wider audience of informed individuals, many more people will be able to effectively take part in the debates and decisions affecting the financing of our nation's schools.

David R. Mandel
Acting Assistant Director
Educational Finance
Program

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CHAPTER I

STATE SUPPORT FOR ELEMENTARY AND SECONDARY EDUCATION

There are 581 public school districts in Michigan representing a wide range of sizes, wealth, and character. The largest district, Detroit, educates over 200,000 students; the smallest, Bois Blanc Pines less than 10. The property wealth of districts varies from over $200,000 per pupil to less than $5,000. Some districts are highly urbanized; many are totally rural in character. These differences among districts in size, wealth, and character result in different educational needs, demands and abilities to pay for services. A state's education finance plan is intended to address these differences and assure that each student, regardless of where s/he attends school, is provided with an adequate education. It attempts to equalize the revenue that is available to school districts for the cost of each student's education.

State aid is provided in two basic forms in Michigan: general purpose aid and categorical aid. General purpose aid is distributed through an equalization formula and accounts for the majority of state aid to school districts. Special programs and services are funded through categorical aid programs.

The subject of the first part of this chapter is how Michigan's Education Finance Plan undertakes its equalization objective; i.e., how state aid is distributed to make up for the differences among districts in need, demands and abilities to pay. In the second part we will discuss categorical programs.

Prior to 1973, state aid to Michigan school districts was distributed on the basis of an equalization formula known as a Minimum Foundation Program. The way the Minimum Foundation Program worked was the state determined a per pupil cost it would support and guaranteed every school district would have at least this amount per pupil. To participate in the program, a school district was required to levy a state determined tax rate. State aid was the difference between the guaranteed per pupil cost and what a local district raised using the state set tax rate.

In 1973, the "Gilbert E. Bursley School District Equalization Act" replaced the Minimum Foundation Program with a state aid distribution program that draws upon an equalization formula known as District Power Equalizing. While the Minimum Foundation Program had emphasized a state determined tax rate and the district's tax base, District Power Equalizing emphasizes the district's tax effort. Each district is assured an equal yield for an equal tax effort. Under District Power Equalizing a school district chooses its tax rate for education. This tax rate is applied to the district tax base. If the district does not generate revenue equal to the guaranteed yield, state aid makes up the difference.

This chapter describes Michigan's education finance plan. It is predicated on the assumption that understanding your state's finance plan requires a working knowledge of how it operates. Therefore, the major features of the District Power Equalizing Plan are outlined, including the step-by-step calculation of a district's basic pupil allowance. To assist you in understanding Michigan's state aid formula, exercises appear throughout the chapter. You should complete each set of exercises before proceeding to new material.

School District Equalization Aid Program

1. State Guarantee

Under Michigan's School District Equalization Aid Program, the state guarantees each school district that it will receive a certain amount of revenue for its educational programs. Local school districts must contribute to the State Guarantee. The Local Share is determined by applying the district tax rate to the district equalized property valuation per pupil. State Aid to a school district is the difference between the State Guarantee and the Local Share.

State Aid Per Pupil = State Guarantee Per Pupil − Local Share Per Pupil

1. State Guarantee

The State Guarantee to a school district consists of two parts: Guaranteed Revenue and a Flat Grant of $164 per pupil. To determine the guarantee you add the two parts. Thus:

State Guarantee Per Pupil = Guaranteed Revenue Per Pupil + Flat Grant ($164 Per Pupil)

In our discussion of the State Guarantee, first we will explain the Guaranteed Revenue; then the Flat Grant; and finally, how the two combine to determine the State Guarantee.

Guaranteed Revenue

Michigan's School District Equalization Aid Program assures every school district a fixed amount of revenue per pupil for each mill of tax effort. The guarantee for 1977-78 is $40 per mill for up to 30 mills of tax effort. This guarantee has changed each year of the program. (For an explanation of the guarantee for previous years

see Appendix A). The guarantee per mill multiplied by the district tax rate determines the Guaranteed Revenue per pupil.

Guaranteed Revenue Per Pupil = Guarantee Per Mill ($40) / District Tax Rate

In order to determine the Guaranteed Revenue per pupil, you need to know the district tax rate. Each district chooses the tax rate it will levy to support its educational programs. This tax rate is defined in terms of mills. Mills can be expressed as dollars per thousand dollars. For example, a 15 mill tax rate is the same as 15 dollars per thousand dollars. Under the School District Equalization Aid Program, the guarantee applies only to the first 30 mills of tax effort.

Table 1 shows the calculation of the Guaranteed Revenue per pupil for four districts with differing tax rates.

TABLE 1

CALCULATION OF GUARANTEED REVENUE PER PUPIL

District	1977-78 Guarantee	District Tax Rate (Mills)	Guaranteed Revenue
A	$40	10	$400
B	40	20	800
C	40	30	1,200
D	40	40	1,200 *

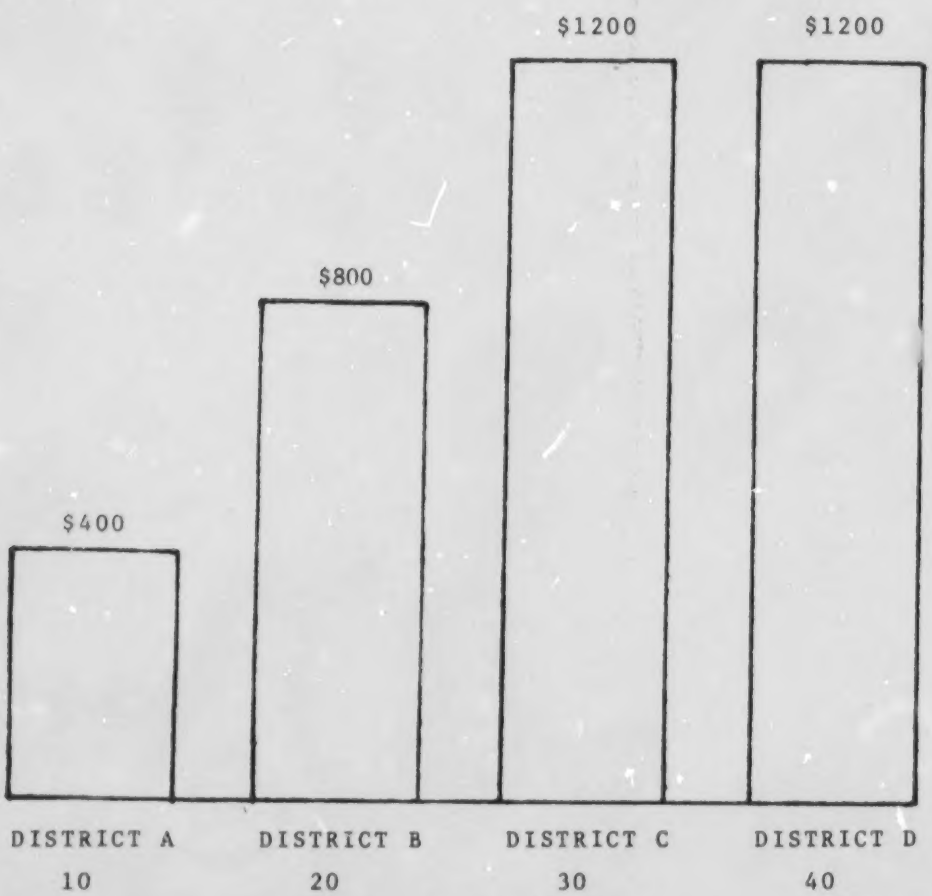
*See notes on next page.

Note in Table 1:

- The Guaranteed Revenue is the Guarantee per mill multiplied by the district tax rate.
- The Guaranteed Revenue for District A is $40 x 10 or $400 per pupil. District C, with a 30 mill tax rate has a higher guarantee, $40 x 30 or $1,200 per pupil.
- District D with a 40 mill tax rate has the same guarantee as District C. Remember, the guarantee applies only to the first 30 mills of tax effort.

Figure 1 displays the Guaranteed Revenue per pupil for our four districts in Table 1.

FIGURE 1
GUARANTEED REVENUE PER PUPIL

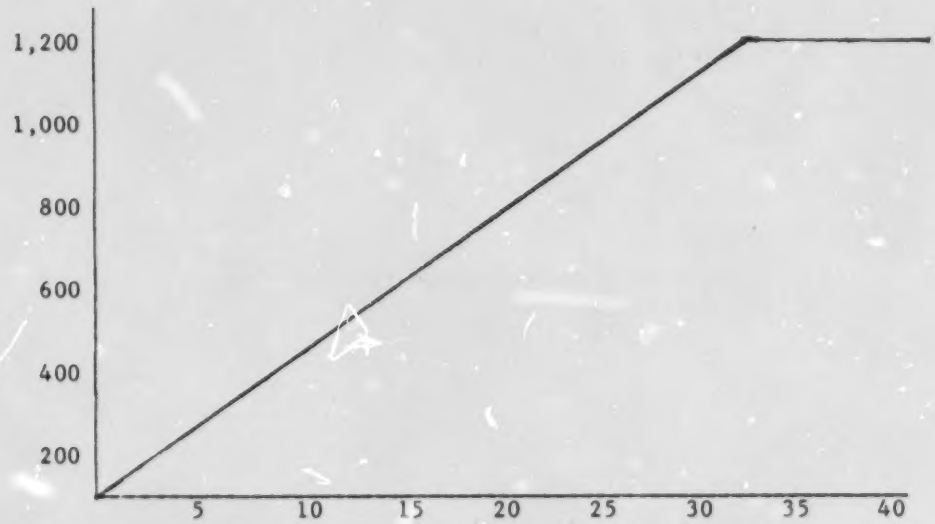


Note in Figure 1:

- The district's tax rate is at the bottom of each bar. The Guaranteed Revenue is displayed at the top of each bar.
- Districts with a higher tax rate are guaranteed more revenue.

The effect of different tax rates on the per pupil amount of Guaranteed Revenue is graphically displayed in Figure 2.

FIGURE 2
GUARANTEED REVENUE PER PUPIL



Note in Figure 2:

- Tax rates are displayed on the horizontal line. The amount of Guaranteed Revenue is displayed on the vertical line.
- The Guaranteed Revenue is found by multiplying the district tax rate by $40 per mill guarantee.
- At 5 mills a district is guaranteed $200 per pupil; at 25 mills $1,000 per pupil; at 30 mills, the maximum guarantee of $1,200 is reached.
- Districts levying more than 30 mills are guaranteed $1,200 per pupil.

Exercises on Guaranteed Revenue

Guaranteed Revenue Per Pupil	=	Guarantee Per Mill ($40)	x	District Tax Rate

1. A 13 mill tax rate is the same as what decimal value?

   a. 1.3
   b. .13
   c. .013
   d. .0013

2. A district levies a 19 mill tax rate in 1977-78. What is this district's Guaranteed Revenue per pupil?

   a. $7.60
   b. $7,600
   c. $760
   d. $76.00

3. What is the Guaranteed Revenue per pupil of a district with a .014 tax rate in 1977-78?

   a. $5.6
   b. $560
   c. $5,600
   d. $56

4. A district levies 17.25 mills in 1977-78. What is this district's Guaranteed Revenue per pupil?

   a. $690
   b. $6.90
   c. $6,900
   d. $69,000

5. A district levies 35 mills in 1977-78. What is this district's Guaranteed Revenue per pupil?

   a. $120
   b. $1,200
   c. $140
   d. $1,400

Guaranteed Revenue (Determined by Guaranteed Tax Base).

You have just seen that you determine the Guaranteed Revenue for a school district by multiplying the guarantee per pupil by the district tax rate. Often in Michigan you will see the Guarantee stated in terms of a Guaranteed Tax Base rather than a guarantee per mill of tax effort. It is easy to translate a per mill guarantee to a tax base guarantee. Recall that a one mill tax rate is the same as a tax of one dollar per thousand dollars. Thus, to determine the tax base for a guarantee of a certain number of dollars per mill you multiply the number of dollars by a thousand. Therefore for a guarantee of $40 per mill, you multiply $40 by 1,000, and obtained a guaranteed tax base of $40,000. To translate a guaranteed tax base to a per mill guarantee you divide the guaranteed tax base by 1,000. Thus, a guaranteed tax base of $40,000 per pupil is the same as a guarantee of $40 per mill. ($40,000/1,000 = $40).

To calculate a district's Guaranteed Revenue when given a Guaranteed Tax Base it is necessary to express the district's tax rate as a decimal value. Remember mills are dollars of tax per thousand dollars of tax base. A 20 mill tax rate is a tax rate of 20 dollars per thousand dollars of tax base. To express this tax rate as a decimal value you divide the tax rate by 1,000 to obtain a tax rate of .020.

Once you have translated the tax rate to a decimal value, you determine the Guaranteed Revenue by multiplying the Guaranteed Tax Base by the district tax rate.

Guaranteed Revenue Per Pupil = Guaranteed Tax Base x District Tax Rate

Table 2 shows the calculation of Guaranteed Revenue for the same four districts shown in Table 1.

TABLE 2

CALCULATION OF GUARANTEED REVENUE PER PUPIL

District	Guaranteed Tax Base	District Tax Rate		Guaranteed Revenue
		Mills	Decimal	
A	$40,000	10	.010	$400
B	40,000	20	.020	800
C	40,000	30	.030	1,200
D	40,000	40	.040	1,200

Note in Table 2:

- The Guaranteed Revenue is the Guaranteed Tax Base multiplied by the district tax rate.
- The revenues guaranteed for each district are the same as in Table 1. District A has a guarantee of $400 per pupil and District C has a guarantee of $1,200.
- District D has the same guarantee as District C because the guarantee applies only to the first 30 mills of tax effort.

You should compare Table 1 and 2. In Table 1 the Guaranteed Revenue was determined by multiplying the guarantee per mill of $40 by the district tax rate of 10 mills the guarantee was $40 x 10 or $400 per pupil. In Table 2 the guarantee was determined by multiplying the guaranteed tax base of $40,000 by the district tax rate. For District A the guarantee is $40,000 x .010 or $400 per pupil. Thus both methods yield the same result.

Exercises on Guaranteed Revenue
(Determined by Guaranteed Tax Base)

Guaranteed Revenue Per Pupil	=	Guaranteed Tax Base ($40,000)	x	District Tax Rate

6. Assume that the guarantee per mill is $45 per pupil. What is the guaranteed tax base per pupil?

   a. $4,500
   b. $450
   c. $45,000
   d. $45

7. Assume that the guarantee per mill is $38 per pupil. What is the guaranteed tax base per pupil?

   a. $380
   b. $38
   c. $3,800
   d. $38,000

8. What is the Guaranteed Revenue per pupil of a district with a .016 tax rate in 1977-78?

   a. $1,280
   b. $6,400
   c. $12,800
   d. $640

9. What is the Guaranteed Revenue per pupil of a district with a 40 mill tax rate in 1977-78?

   a. $1,200
   b. $1,600
   c. $160
   d. $120

Flat Grant

In 1977-78 a new provision was added to the Michigan school funding law. This provision adds a fixed amount of $164 to each school district's Guaranteed Revenue. This amount does not vary by school district and is not affected by the district tax rate. Thus a district with a 10 mill tax rate and a district with a 20 mill tax rate each have an additional $164 added to their Guaranteed Revenue.

Calculation of State Guarantee

To determine the State Guarantee you add the Guaranteed Revenue and the Flat Grant of $164.

State Guarantee Per Pupil = Guaranteed Revenue Per Pupil + Flat Grant Per Pupil ($164)

Table 3 shows the State Guarantee for our four school districts shown in Table 1 and 2.

TABLE 3

CALCULATION OF STATE GUARANTEE PER PUPIL

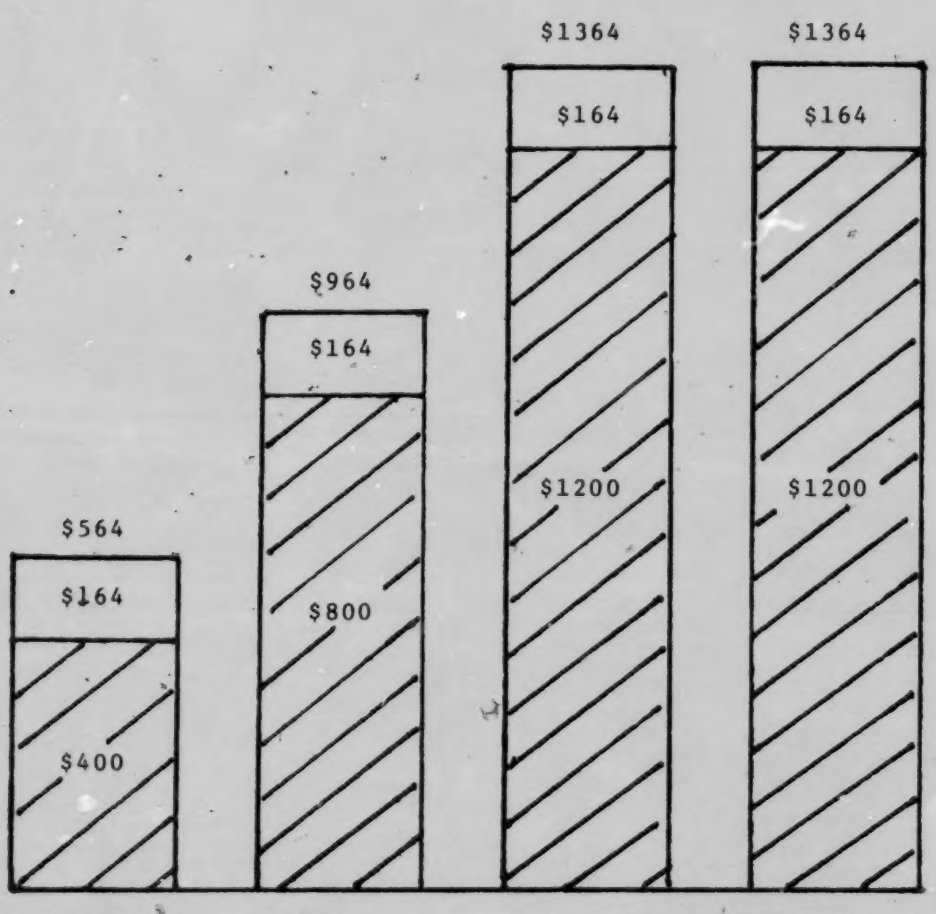
District	Guarantee Per Mill	District Tax Rate (Mills)	Guaranteed Revenue	Flat Grant	State Guarantee
A	$40	10	$400	$164	$564
B	40	20	800	164	964
C	40	30	1,200	164	1,364
D	40	40	1,200	164	1,364

Note in Table 3:

- Each district receives the same Flat Grant of $164 per pupil.
- The Flat Grant is added to the Guaranteed Revenue to determine the State Guarantee to a school district.
- District C and D have the same State Guarantee even though District D has a higher tax rate. This is because the guarantee applies only to the first 30 mills of tax effort.

Figure 2 shows the State Guarantee for the four districts in Table 3.

FIGURE 2
STATE GUARANTEE



Note in Figure 2:

- The district tax rate is at the bottom of each bar. The Guaranteed Revenue is the marked area at the bottom of each bar.
- The Flat Grant of $164 is represented by the white area.
- The State Guarantee is Guaranteed Revenue added to the Flat Grant. It is displayed at the top of each bar.

Exercises on Calculation of State Guarantee

State Guarantee Per Pupil	=	Guaranteed Revenue Per Pupil	+	Flat Grant ($164)

Guaranteed Revenue Per Pupil	=	Guarantee Per Mill ($40)	+	District Tax Rate

10. What is the State Guarantee for a district with a .012 tax rate in 1977-78?

    a. $644
    b. $64.4
    c. $480
    d. $48.0

11. What is the State Guarantee for a district with an 18 mill tax rate in 1977-78?

    a. $72
    b. $720
    c. $82
    d. $884

12. What is the State Guarantee for a district with a 35 mill tax rate in 1977-78?

    a. $1,400
    b. $1,200
    c. $140
    d. $1,364

2. Local Share

Local school districts are required to contribute to the State Guarantee per pupil. The Local Share is determined by multiplying the district's tax base per pupil by its tax rate. Thus,

Local Share Per Pupil	=	District Tax Base Per Pupil	x	District Tax Rate

District Tax Base

In Michigan, a district's tax base for school purposes is its state equalized assessed property valuation. Equalized property valuation is an attempt to arrive at a tax base for each district which is comparable across districts. In Michigan all property is required by law to be assessed at 50 percent of full market value.[1]

The tax base per pupil is found by dividing the total equalized property valuation of the district by the number of pupils. For the purpose of determining a district's per pupil property tax base, the School District Equalization Aid Program uses state aid members as the pupil count. State aid members are defined as the number of students legally enrolled in a school district on the fourth Friday following Labor Day. A district with a valuation of $1,000,000 and 100 state aid members has a per pupil valuation of $1,000,000 divided by 100 or $10,000 per pupil.

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[1] The assessment is first determined by a locally appointed assessor. Each county develops equalization factors to account for any variation in assessment practices among its subunits. If the county equalization factor does not succeed in bringing the property up to 50 percent of true market value, the state tax commission can issue other equalization factors.

Calculating Local Share

Once the district's tax base per state aid member has been determined, it is possible to determine the Local Share. The Local Share is the district's tax base per pupil multiplied by the district tax rate. The same tax rate that is used to calculate the district's Guaranteed Revenue is used to calculate the Local Share. In addition, the same tax rate limit applies. For 1977-78, a district cannot use more than a 30 mill or .030 tax rate to determine its Local Share.

Districts with a high tax base per pupil have a higher Local Share than districts with a low tax base. For example, Table 4 shows the Local Share for four districts with the same tax rate (20 mills or .02) but different property valuations.

TABLE 4

CALCULATION OF PER PUPIL LOCAL SHARE:
EFFECT OF PROPERTY WEALTH

	Tax Base	District Tax Rate Mills	Decimal	Local Share
District A	$10,000	20	.02	$200
District B	20,000	20	.02	400
District C	30,000	20	.02	600
District D	40,000	20	.02	800

Note in Table 4:

- All four districts levy the same tax rate of 20 mills.
- District A with a valuation of $10,000 per state aid member is required to contribute $200 per state aid member whereas District D with a valuation of $40,000 must contribute $800 per state aid member.

Figure 3 shows the Local Share for our four districts in Table 4. Note in Figure 3:

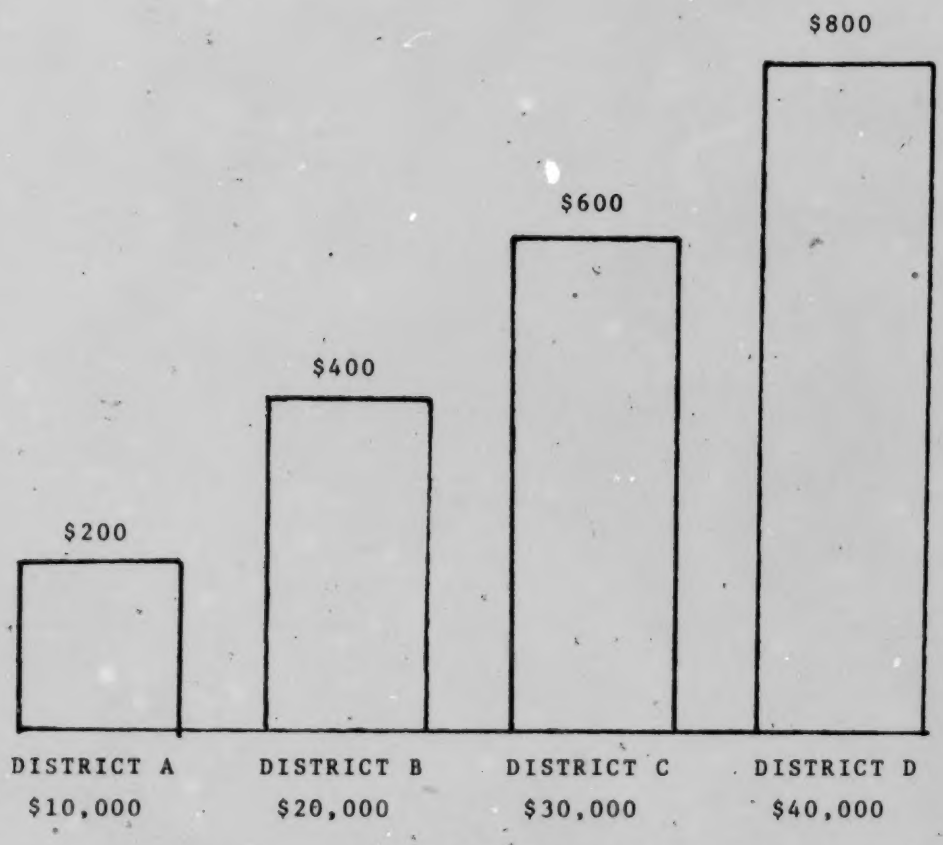
. The district's tax base is displayed at the bottom of each bar.

. The Local Share for each district is at the top of each bar.

. Wealthier districts have a higher Local Share.

FIGURE 3

LOCAL SHARE



The Local Share also varies with district tax rates. Districts that levy a high tax rate have a higher Local Share than districts with low tax rates. Table 5 shows the effect of differing tax rates on the Local Share. The four districts in Table 5 have the same tax base per state aid member, $30,000, but levy different tax rates. District A with a tax rate of 10 mills or .010 is required to contribute $300 whereas District C with the maximum tax rate of 30 mills or .030 for 1977-78 has a Local Share of $900 per state aid member. Note that District D also has a Local Share of $900. This is because the 30 mill tax limit which applies to Guaranteed Revenue also applies to the Local Share.

TABLE 5

CALCULATION OF PER PUPIL LOCAL SHARE:
EFFECT OF TAX EFFORT

	Tax Base	District Tax Rate Mills	Decimal	Local Share
District A	$30,000	10	.01	$300
District B	30,000	20	.02	600
District C	30,000	30	.03	900
District D	30,000	40	.04	900

Exercises on Local Share

Local Share Per Pupil	=	District Tax Base Per Pupil	x	District Tax Rate

13. A district has a property valuation of $25,000 per state aid member and levies a tax rate of .024 in 1977-78. What is the Local Share per pupil?

    a. $500
    b. $600
    c. $50.00
    d. $60.00

14. A district has a property valuation of $60,000 per state aid member and levies an 18 mill tax rate in 1977-78. What is the Local Share per pupil?

    a. $10,800
    b. $600
    c. $108
    d. $1,080

15. A district has 2,000 state aid members, a total equalized assessed property valuation of $80,000,000 and levies a tax of 24.45 mills in 1977-78. What is the Local Share per pupil?

    a. $978
    b. $97.80
    c. $1,956
    d. $800

16. A district has a property valuation of $100,000 per pupil and levies 31 mills in 1977-78. What is the Local Share per pupil?

    a. $3,100
    b. $310
    c. $300
    d. $3,000

17. A district has 1,500 state aid members, a total property valuation of $30,000,000 and a tax rate of .0275 in 1977-78. What is its Local Share per pupil?

a. $400
b. $550
c. $825
d. $800

18. A district with 4,500 state aid members has a total property valuation of $90,000,000 and levies 32 mills in 1977-78. What is its Local Share per pupil?

a. $640
b. $60
c. $64
d. $600

3. State Aid

Now that you have seen how to determine the Local Share, you can determine State Aid. Remember,

State Aid Per Pupil	=	State Guarantee Per Pupil	-	Local Share Per Pupil

You have seen that the State Guarantee is the Guaranteed Revenue per pupil plus the Flat Grant of $164. The Local Share is the district's property valuation multiplied by the district's tax rate. To determine State Aid for a district that levies a 20 mill (.020) tax rate and has a property valuation of $30,000 per state aid member in 1977-78 requires three steps:

1. Determine the State Guarantee per pupil by adding the district's Guaranteed Revenue per pupil and the Flat Grant.

   a. Determine Guaranteed Revenue per pupil by multiplying the guarantee per mill ($40) by the district tax rate.

      $40 x 20 = $800

   b. Determine the State Guarantee by adding the Guaranteed Revenue to the Flat Grant of $164.

      $800 + $164 = $964

2. Determine the Local Share by multiplying the district tax rate by the district property valuation per pupil.

   $30,000 x .020[1] = $600

3. Determine State Aid by subtracting the Local Share from the State Guarantee.

   $964 - $600 = $364

One purpose of State Aid is to lessen the disparity in the ability of districts to raise revenue for education. The School District Equalization Aid Program emphasizes both district wealth and

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[1] Recall that when making a calculation using a tax base, the tax rate must be expressed as a decimal value.

district's tax effort. You have already seen in Table 4 that the Local Share increases as the tax base per pupil increases. Table 6 shows the State Aid per pupil for the same four districts. Each district levies the same 20 mill tax rate and each is guaranteed $964 per pupil. However, districts with a lower tax base receive more State Aid per pupil. The Guaranteed Revenue is $40 x 20 or $800 and the flat grant is $164. District A with a valuation of $10,000 per pupil receives $764 in State Aid whereas District C with a valuation of $30,000 receives $364. District D receives only the flat grant of $164; this district has a valuation of $40,000 and raises the Guaranteed Revenue with its own tax levy.

TABLE 6

STATE AID PER PUPIL: LESSENING DISPARITIES IN PROPERTY WEALTH

District	Property Valuation	District Tax Rate	State Guarantee	Local Share	State Aid
A	$10,000	.02	$964	$200	$764
B	20,000	.02	964	400	564
C	30,000	.02	964	600	364
D	40,000	.02	964	800	164

If a district has an even higher tax base it will receive no State Aid. For instance, a district with a tax base of $60,000 per pupil and a tax rate of .020 has a local share that is higher than the State Guarantee. Its guarantee is $964 and its local share is $60,000 x .020 or $1,200. Thus this district will receive no State Aid.

Exercises on State Aid

State Aid Per Pupil	=	State Guarantee Per Pupil	-	Local Share Per Pupil
State Guarantee Per Pupil	=	Guaranteed Revenue Per Pupil	x	Flat Grant ($164)
Guaranteed Revenue Per Pupil	=	Guarantee Per Mill ($40)	x	District Tax Rate
Local Share Per Pupil	=	District Tax Base Per Pupil	x	District Tax Rate

19. A district with a State Guarantee of $1,024.80 per pupil and a Local Share of $440 per pupil receives what amount of State Aid per pupil.

a. $1,024.80
b. $440.00
c. $584.80
d. $11,464.80

20. A district has a property valuation of $35,000 per state aid member. It levies a .016 tax rate in 1977-78 and its per pupil State Guarantee is $804. What amount of State Aid per pupil does this district receive?

a. $560
b. $804
c. $1,364
d. $244

21. A district has a property valuation of $23,000 per state aid member and levies a tax rate of .018 in 1977-78. What amount of State Aid per pupil does this district receive?

a. $720
b. $306
c. $470
d. $884

22. A district has 1,200 state aid members, a total property valuation of $30,000,000 and levies 16 mills in 1977-78 What amount of State Aid per pupil does this district receive?

a. $404
b. $400
c. $804
d. $240

23. A district has a property valuation of $26,500 per state aid member, and levies a .023 tax rate in 1977-78. What amount of State Aid per pupil does this district receive?

a. $920
b. $474.50
c. $609.50
d. $310.50

24. A district has a property valuation of $36,500 per state aid member and levies a 40 mill tax in 1977-78. What amount of State Aid per pupil does this district receive?

a. $269
b. $105
c $1,364
d. $1,095

25. A district with 1,400 state aid members and a total property valuation of $28,000,000 levies a tax rate of .032 in 1977-78. What amount of State Aid per pupil does this district receive?

a. $600
b. $764
c. $724
d. $804

Total General Purpose Revenue

Thus far you have seen how to calculate the State Guarantee, the Local Share and State Aid for a school district. Now we will see determinations related to total general purpose revenue. You have learned that there is a limit on the level of the State Guarantee due to the tax rate limits imposed by the state. Revenues resulting from the State Aid formula are limited to $1,364 per pupil. The maximum Guaranteed Revenue is $40 x 30 mills or $1,200 and with the flat grant of $164 the maximum State Guarantee is $1,200 + $164 or $1,364 per pupil. However, districts can raise more than $1,364 per pupil if they desire, since they can have tax rates above the maximum established for purposes of determining State Aid. If a district does tax itself at a rate above the maximum tax rate, the tax is only applied to the district tax base. For example, if a district with a valuation of $30,000 taxes itself at 40 mills (.040), how do you determine the General Purpose Revenue for this district? To determine the General Purpose Revenue for this district requires the following steps:

1. Determine the amount of revenue obtained under the State Aid formula:

   a. Determine the State Guarantee:

      $1,200 + $164 = $1,364

   b. Determine the Local Share by multiplying the maximum tax rate by the district tax base:

      .03 x $30,000 = $900

   c. Determine State Aid per pupil.

      $1,364 - $900 = $464

2. Determine the amount of additional tax by subtracting the maximum tax rate from the district's total tax:

   40 - 30 = 10

3. Determine the revenue obtained from the additional tax by multiplying the district tax base by the amount of the additional tax:

   30,000 x .010 = $300

4. Total General Purpose Revenue is the sum of revenue generated under the State Aid formula and revenue obtained from the district's additional tax effort:

   $1,364 + $300 = $1,664

Table 8 shows the calculation of Total General Purpose Revenue for four districts with the same tax rate but different tax bases. Although in Table 8 all of our districts levy the same 40 mill tax rate, their Total General Purpose Revenue differs according to their tax base. Recall that the State Aid formula compensates for districts differing abilities to raise revenue. However, the formula only compensates for tax rates up to 30 mills. If a district has a tax rate above 30 mills, its revenue will depend upon local ability to pay.

TABLE 8

GENERAL PURPOSE REVENUE PER PUPIL

District	Tax Base	District Tax Rate	State Guarantee	Local Share	State Aid
	A. Revenue Generated Under State Aid Formula				
A	$10,000	40 (.040)	$1,364	$300	$1,064
B	20,000	40 (.040)	1,364	600	764
C	30,000	40 (.040)	1,364	900	464
D	40,000	40 (.040)	1,364	1,200	164
	B. Total General Purpose Revenue				
A	$10,000	10 (.010)	$ 100	$1,364	$1,464
B	20,000	10 (.010)	200	1,364	1,564
C	30,000	10 (.010)	300	1,364	1,664
D	40,000	10 (.010)	400	1,364	1,764

Exercises on Total General Purpose Revenue

26. A district has a State Guarantee of $1,364, a tax base of $30,000 per pupil and levies a tax of 45 mills in 1977-78. What is this district's Total General Purpose Revenue per pupil?

a. $1,814
b. $1,364
c. $1,764
d. $1,350

27. A district has a tax base of $25,000 per pupil and levies a tax of 50 mills in 1977-78. What is this district's Total General Purpose Revenue per pupil?

a. $1,250
b. $1,750
c. $1,864
d. $2,000

28. A district has a tax base of $60,000 per pupil and levies a tax of 40 mills in 1977-78. What is this district's Total General Purpose Revenue per pupil?

a. $1,964
b. $1,600
c. $2,600
d. $2,400

29. A district has a total tax base of $40,000,000, 2,000 state aid members and levies a tax of 35 mills in 1977-78. What is this district's Total General Purpose Revenue per pupil?

a. $1,300
b. $700
c. $1,400
d. $1,464

30. A district has a total tax base of 150,000,000, 2,000 state aid members and levies a tax of 40 mills in 1977-78. What is this district's Total General Purpose Revenue per pupil?

a. $3,000
b. $1,600
c. $2,864
d. $2,700

Adjustments to State Aid

Thus far you have seen how the basic aid formula works. A district may receive additional State Aid from two programs: municipal overburden and declining enrollment.

1. Municipal Overburden. A district will receive additional State Aid if its non-school property tax rate exceeds the statewide average non-school property tax rate by 125% of the state average. The assumption is that districts with high non-school property taxes are less able to obtain voter approval for school tax rate increases and therefore need additional State Aid. The municipal overburden program awards extra aid to these districts by reducing their per pupil property valuation. If a district's non-school taxes exceed the statewide average non-school property tax by 25 percent or more, the district is eligible for municipal overburden aid. The district's additional aid is determined by reducing its tax base by which its non-school tax exceeds 125 percent of the statewide average. A district then recalculates its State Aid on the basis of this lower valuation.

To determine the amount of tax base reduction requires several steps:

1. Determine the district's tax rate for non-school purposes. Under Michigan's "municipal overburden" provision this is the total value of taxes collected for non-school purposes divided by the district's property valuation in the previous year. Assume a district collected $3,000,000 in non-school taxes and its property valuation in the prior year was $100,000,000. Thus, this district's non-school tax rate was,

   $3,000,000/$100,000,000 = .030

2. Find what percentage the districts tax rate for non-school purposes (Step 1) is of the statewide average non-school tax rate by dividing the district non-school tax rate by the statewide average non-school tax rate. Assume the average non-school tax rate is .020.

   .030/.020 = 1.50

   In order to qualify for a reduction in tax base a district's non-school tax rate must be 125 percent (or 1.25) of the statewide average tax rate. Our example district qualifies for a reduction in its tax base because its non-school tax rate is 150 percent or (1.50) of the state average non-school tax rate.

3. Determine the percentage by which a district's tax base will be reduced. This is 1.25 subtracted from the percentage determined in Step 2.

   1.50 - 1.25 - .25

   Our example district's tax base will be reduced 25 percent or .25.

4. Determine the amount the district's tax base will be reduced by multiplying its total tax base by its percentage of reduction,

   $100,000,000 x .25 = $25,000,000

5. Determine the district's reduced property valuation by subtracting the reduction from the total property valuation.

   $100,000,000 - $25,000,000 = $75,000,000

Table 11 demonstrates how the municipal overburden provides additional State Aid. In this table we have calculated our example district's State Aid before and after the reduction in its property valuation. We have assumed the district levies a 30 mill tax rate and has 5,000 state aid members.

As Table 11 shows, prior to the reduction in its property valuation, our example district received $764 per pupil in State Aid. However, because our district is eligible for municipal overburden aid, its property valuation is reduced 25 percent and its State Aid is recalculated. The amount of its State Aid enrollment after the reduction in its tax base is $914 per pupil. Thus the district is entitled to an additional $150 due to municipal overburden ($914 - $764).

TABLE 11

CALCULATION OF STATE AID BEFORE AND AFTER TAX BASE REDUCTION

	State Guarantee			
Property Valuation	Property Valuation Per Pupil	Guaranteed Revenue	Flat Grant	State Guarantee
$100,000,000	$20,000	$1,200	$164	$1,364
75,000,000	15,000	1,200	164	1,364

	State Aid		
Property Valuation Per Pupil	State Guarantee	Local Share	State Aid
$ 20,000	$1,364	$600	$764
15,000	1,364	450	914

2. Declining Enrollment Aid

Districts may also obtain additional State Aid if their state aid membership during the current year represents a decline of more than 2 percent. For example, assume a district had 1,250 state aid members in 1976-77 and has 1,000 state aid members in 1977-78. To determine if this district is eligible for declining enrollment aid requires three steps:

1. Determine 2 percent of the prior year membership by multiplying the prior year membership by .02.

   1,250 x .02 = 25

2. Determine the decline in membership by subtracting the current year membership from the prior year membership.

   1,250 - 1,000 = 250

3. Compare the decline in membership to the amount obtained in Step 1. If the decline is greater than 2 percent the district is eligible for aid. Thus, our hypothetical district is eligible for aid.

In order to determine the amount of declining enrollment aid to which a district is entitled you multiply the number of pupils in excess of 250 by which enrollment declined by a state set per pupil amount. Thus our district would multiply the state set amount by 250 minus 25 or 225 pupils. The state per pupil amount depends on the state appropriation for declining enrollment. It is determined by dividing state appropriation for declining enrollment aid by the eligible membership. In 1977-78 the appropriation for declining enrollment was $6 million. This resulted in a per pupil amount of approximately $200. Thus our hypothetical district would receive $225 times $200 or $45,000 in declining enrollment aid.

Categorical Program Aid

The first part of this chapter provided a step-by-step description of Michigan's formula for distributing general purpose aid to local school districts. Aid distributed through Michigan's District Power Equalizing Formula accounts for the majority, over 80 percent, of State Aid to local school districts. The other 20 percent, is distributed through the second form of State Aid, Michigan's categorical aid programs.

Categorical aid refers to the provision of state funds to school districts for the delivery of special programs and services (i.e., transportation, special education, vocational education). Table 12 provides a list of the major categorical programs.
Three types of categoricals are listed: (1) pupil targeted instructional programs; (2) pupil support services; and (3) capital support programs. Included in the Table is the actual state expenditure for each categorical in 1975-76; the percentage of all categorical expenditures the particular program represented; and the basis for distributing program funds to school districts.

Table 12 displays 12 pupil targeted instructional programs. These programs accounted for 63.74 percent of categorical expenditures. Pupil targeted programs are intended for students requiring specialized instruction on programs not designed to reach all pupils enrolled in regular instructional programs. The largest pupil targeted program, Special Education, accounted for nearly 42 percent of the categorical expenditures in 1975-76. Aid for the mentally and physically handicapped was distributed to over 500 school districts through this program. Compensatory Education and Vocational Education each accounted for about another 10 percent of all categorical

expenditures. Assistance for Vocational Education is provided on the basis of an added cost formula and was distributed to over 400 districts in 1975-76. Compensatory Education provides aid to districts. The district will receive aid on the basis of their scores on the statewide assessment batteries if 15 percent or more of grade K-6 pupils are determined to be in need of special assistance in basic cognitive skills. In 1975-76, aid from this categorical program was provided to 97 Michigan school districts.

There is one pupil support service program, transportation, for which expenditures were $62.8 million in 1975-76 and accounted for 28 percent of all categorical expenditures. Finally, the Capital Outlay Millage Reimbursement provides aid for school construction based on equal yield for an equal amount of indebtedness per pupil.

There are two bases for the distribution of state categorical aid: (1) aid for some programs is provided on a project or program approval basis, meaning a district applies for aid to finance in whole or in part a proposed program or service that falls within an established categorical program; (2) other categorical aid use an equalization formula as the basis of distribution.

TABLE 13
MICHIGAN CATEGORICAL AID PROGRAMS

Program/Service	1975-76 Expenditure[1]	Percent of Total Categorical Aid	Method of Distribution
Pupil Targeted Instructional Programs			
Special Education	$92.70	41.57%	Formula
Compensatory Education	22.50	10.09	Formula
Vocational Education	21.25	9.53	Formula
Reading Support Program	3.00	1.35	Formula
Alternative Programs for Problem Juveniles	1.10	0.49	Project Approval
Alternative Programs for Pregnant Students	0.70	0.31	Project Approval
Neighborhood Education Centers	0.50	0.22	Project Approval
Academically Talented Programs	0.20	0.09	Project Approval
Experimental Projects	0.20	0.09	Project Approval
Bilingual Education	0.00	0.00	Formula
Project SEED Math Programs	0.00	0.00	Project Approval
Performance Contracting	0.00	0.00	Project Approval
Pupil Support Services			
Transportation	$62.80	28.16%	Formula
Capital Support			
Capital Outlay Millage	$18.07	8.10%	Formula
	$223.02	100.00	

[1] Caesar, Gene (Majority Education Specialist, Michigan House of Representatives). General Statistics for the Public Schools of Michigan: 1976-77. (1977).

CHAPTER II

STUDYING MICHIGAN'S EDUCATION FINANCE PLAN

Since the early decades of this century, one important purpose of most school finance plans has been to achieve greater equity in raising and distributing educational services. Equity is a broad and vague term, but in school finance its meaning has frequently been reduced to measurable differences, or disparities in expenditures and/or services among districts in a state. A glance at the districts within Michigan will reveal a variety of such differences, e.g., disparities in the amount of money spent for each pupil; in the tax rate used to raise money for education; in the type of school programs available to students and in the achievement of students. A state education finance plan may be designed to reduce one or some combination of these, or other, types of disparities. That is, the plan may attempt to "equalize" per pupil expenditures, "equalize" the revenue raised by the districts, "equalize" the program offerings, or "equalize" the achievement levels.

The manner in which "equalization" is defined and measured, and the criteria used to determine if "equalization" is achieved are important considerations in evaluating the impact of a state school finance plan. A plan may go a long way in alleviating the problems of one type of disparity without affecting other types of disparities, or, in fact, worsening other disparities. For example, a plan may "equalize" per pupil expenditures among school districts, but in the process increase the disparities among districts in the tax rate they must apply. Similarly, what is "equalizing" under one definition, measurement or method of

analysis may not be "equalizing" under another set of criteria. In other words, there are trade-offs to be made, and in evaluating the impact of a state finance plan, it is important to investigate its implications under varying concepts or measures of equity.

The first decision that must be made in the formulation of an education finance plan is what is to be "equalized"? A plan may address disparities in raising of resources or it can address the "equalization" of the distribution of resources for education. Most often, it addresses both Michigan's education finance program addresses both types of disparities, and is intended to "equalize" the raising and distributing of resources for education.

Equity in the Raising of Resources

The first step in equalizing the raising of resources for education is to decide upon a definition of equity: either the "same treatment for everyone" or "different treatment for different needs." In Michigan, equity in the raising of resources is defined as "equal treatment for everyone." For the raising of resources for education, this definition of equity is translated into practice in the District Power Equalization program by guaranteeing the same amount of revenue per pupil ($40 per mill) to districts levying the same tax rate on district "wealth." Remember, this is the same as guaranteeing a tax base of $40,000 per pupil.

Describing Disparities in Property Wealth

District "wealth" is a basic part of any state education finance plan since it is used to determine a district's ability to support education. Although in theory "wealth" can be defined in many ways, most states, like Michigan, define "wealth" in terms of the amount of

tax base per pupil. The tax base is measured as equalized assessed property valuation. For purposes of determining a district's wealth, the student count is state aid members.

To investigate disparities in wealth in Michigan, we show the per pupil property values for a sample of districts representing central city, suburban and rural districts.[1] In Table 1 the districts are arranged from the district with the highest property value per state aid member to the district with the lowest property value.

Examining the information in Table 1, it is possible to see that there are differences in the property values per pupil among our sample districts. However, from simple observation it is difficult to summarize in any systematic way what those disparities are and the magnitude of the disparities. For this reason, it is useful to employ some method for summarizing disparities.

One way to summarize is to obtain a simple average. The mean or average property value (tax base) per pupil for our sample of districts is $32,942. This is the sum of each district's property value per pupil, $560,008 divided by the 17 school districts in the sample.

A simple average accounts for the number of districts in a sample. However, it does not account for the differences among districts in the number of pupils. A weighted average accounts for these differences and is the more common measure in the study of school finance. It is obtained by dividing the total property values of the sample districts

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[1] This sample is the same as used in Harvey E. Brazer and Ann P. Anderson, "Michigan's School District Equalization Act of 1973: Its Background, and Effects" in U. S. Department of Health, Education and Welfare Selected Papers in School Finance 1976 (Washington; 1976).

TABLE 1

PROPERTY VALUE PER PUPIL, 1975-76
(SAMPLE OF DISTRICTS)

District	Total Property Value	Number Of Pupils	Property Value Per Pupil
Dearborn	$1,233,997,541	17,917	$ 68,873
Harbor Springs	59,365,544	886	67,004
Godwin Heights	154,574,649	2,511	61,559
Waverly	241,486,972	4,454	54,218
Ann Arbor	875,379,586	18,758	46,667
Carman	339,125,384	8,632	39,287
Flint	1,130,930,775	42,003	26,925
Milan	77,509,052	2,822	27,466
Lansing	820,830,848	32,306	25,408
Lincoln Park	213,859,632	8,719	24,528
Detroit	5,800,440,916	253,982	22,838
Grand Rapids	860,374,174	38,894	22,121
Northview	62,288,304	3,462	17,992
Mt. Morris	66,247,128	3,708	17,866
Leslie	28,218,848	1,841	15,328
Inkster	47,008,654	4,213	11,158
Rock River	4,843,560	446	10,860
Total	12,016,481,567	445,554	560,008

Source: Michigan Department of Education, Ranking of Michigan Public High School Districts By Selected Financial Data, 1975-76, Bulletin 1012. (1977).

by the total number of pupils in those districts. The total property value for the sample is obtained by adding the total property value for each district and dividing by the total number of pupils. The total property value for our sample is $12,016,481, 567. There are a total of 445,554 state aid members in our sample districts. Thus, the weighted average property value is $26,970 per state aid member. Note that the weighted average is lower than the average of $32,942. This indicates that the districts with higher tax bases tend to be smaller.

The median is the middle value when you arrange the values according to size. In Table 1, the school districts have been arranged from the highest property value to the lowest property value per pupil. The median is the property value per pupil that is half way from the district with the lowest value and half way from the district with the highest property value per pupil. There are 17 districts in the sample; the value that divides the 17 school districts into two equal parts of 8 districts each is the property value of the 9th district. Thus, the median property value is Lansing's property value per pupil. The median value is $25,408 per pupil.

Each type of average -- simple, weighted average, the median -- can be used to describe disparities by comparing it with the actual values for individual school districts. For example, you may indicate how much a particular school district varies from the average. You may use this procedure to group districts, such as the number of districts that are within $500 of one of the measures and so on. However, averages do not indicate how widely dispersed the districts are. Another summary measure, the range helps to provide this information. The range is the difference between the highest and lowest value.

In the sample districts, Dearborn has the highest property value per pupil, $68,873, and Inkster the lowest, $10,860. The range is then $68,873 - $10,860 or $58,013. Often the range is represented as a ratio, found by dividing the highest value by the lowest value. For the sample districts, it is $68,873 divided by $10,860 or 6.34:1. The way to read this is that the wealthiest district has a tax base that is 6.34 times greater than that of the poorest district. Used with the average, weighted average, or median, the range indicates how accurately the summary measure represents actual property values. For example, if we had obtained a range of only $100 for the sample districts, this would indicate that the average is fairly representative of the actual property values in the sample. Specifically, it would indicate that no district's tax base differs substantially from the average property value because the wealthiest and poorest districts are separated by only $100. Since the range is much larger for the districts in our sample, the average measures are not necessarily a good representation of the actual property value of a particular district.

Exercises on Disparities in Property Wealth

The districts below are taken from Table 1. Using the information provided for these districts, answer the questions below.

District	Number of Pupils	Property Value Per Pupil
Dearborn	17,917	$ 68,873
Ann Arbor	18,758	46,667
Rock River Township	446	10,860
Harbor Springs	886	67,004
Lansing	32,306	25,408

1. What is the average tax base per state aid member for these 5 districts?
2. What is the weighted average tax base per state aid member?
3. What is the median tax base per state aid member? (Note; the districts are not arranged in order of per pupil tax base).
4. What is the range?

Statewide Disparities in Wealth

Thus far we have shown several indicators of disparities for a sample of Michigan school districts. However, the picture we have obtained for our selected sample may not be representative of statewide disparities in property wealth per pupil. Michigan had 583 school districts in 1975-1976: 530 K-12 and 53 non-high school districts. Since most pupils attend school in K-12 districts we have shown the disparities for these districts. Most of the summary data produced by the state are a summary of K-12 districts. Table 2 shows summary data - the median and range - for Michigan's 530 high school districts (K-12) in 1975-76. We see that our sample under-represents the statewide disparity: the range in property wealth for the state is 43.92 to 1 whereas the range in the sample was 6.34 to 1.

TABLE 2

SUMMARY MEASURES OF WEALTH, 1975-76 MICHIGAN K-12 DISTRICTS

Type of District	Amount
Wealthiest District	$215,926
Poorest District	4,939
Range (Wealthiest minus Poorest)	211,987
Ratio (Wealthiest divided by Poorest)	43.92:1
Weighted Average	26,654
Median	22,781

Source: Michigan Department of Education. Ranking of Michigan Public High School Districts By Selected Financial Data, 1975-76. Bulletin 1012. (1977).

Although the summary measures you have learned about are useful tools for describing disparities, they still do not provide a complete picture. Even though you know the range in property values per pupil is 43.92:1, you still do not know whether a few districts are unusual or whether the disparity is widespread. For example, you do not know if a district with a valuation of $216,926 or one with a valuation of $4,939 are unique or if there are a large number of districts with such high or low property valuation.

One step that you can take to determine the nature of the disparity is to eliminate a certain percentage of the wealthiest and poorest districts and recalculate the range. For example, if we eliminate ten percent of the districts with the lowest value per pupil and ten percent of the districts with the highest value per pupil, we find that the range of the remaining 80 percent of the districts is substantially smaller than the statewide range in wealth. The new range in valuation is $44,704 per pupil to $14,248 per pupil or 3.13:1 compared to the statewide range of 43.92:1. In other words, for 80 percent of Michigan's K-12 districts, the wealthiest district has a tax base that is only 3.13 times greater than that of the poorest district.

Another way to assess the representativeness of summary statistics is to look at the distribution of districts within the range of property wealth. In Table 3 we have divided districts into ranges of property values per state aid member and have shown the number of districts and

the percentage of districts within nine different ranges of wealth. For example, 196 of Michigan's 530 high school districts have a property valuation per pupil between $20,000 and $29,999. This represents 36.98 percent of all Michigan K-12 districts.

TABLE 3

DISTRIBUTION OF TAX BASES PER PUPIL
(530 K-12 Districts, 1975-76)

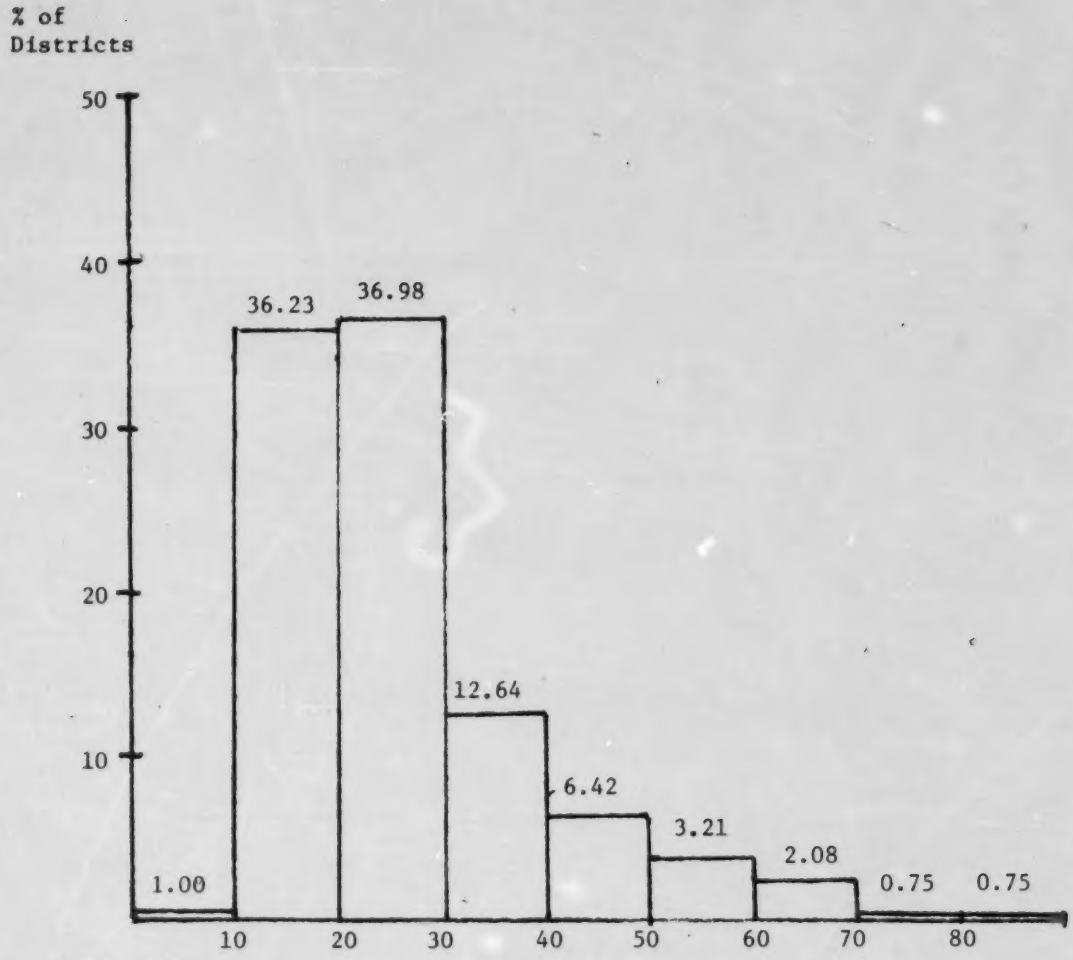
Tax Base Per Pupil	Number of Districts	Percentage of Districts
Under $10,000	5	1.00%
10,000 - 19,999	192	36.23
20,000 - 29,999	196	36.98
30,000 - 39,999	67	12.64
40,000 - 49,999	34	6.42
50,000 - 59,999	17	3.21
60,000 - 69,999	11	2.08
70,000 - 79,999	4	0.75
Above $80,000	4	0.75
Total	530	100.00 %

Source: Michigan Department of Education. Ranking of Michigan Public High School Districts By Selected Financial Data, 1975-76. Bulletin 1012. (1977).

Figure 1 displays the distribution of property values shown in Table 3.

FIGURE 1

DISTRIBUTION OF TAX BASES PER PUPIL



Note in Figure 1:

- Each bar represents the percentage of districts within each range of property values.
- The actual percentage is displayed at the top of each bar.

Exercises on Statewide Disparities

Using the information provided in Table 1 for our 17 sample districts, fill in the missing information in the table below. The table requires that you supply the number and percentage of pupils in the districts falling within the nine intervals of property valuation. Remember there are 17 sample districts; there are 445,554 pupils in these 17 districts.

Tax Base Per Pupil	Number of Districts	Percent of Districts	Number of State Aid Members	Percent of State Aid Members
Under $10,000	0	0.00		
10,000 - 19,999				
20,000 - 29,999				
30,000 - 39,999	1			
40,000 - 49,999	1			
50,000 - 59,999	1			
60,000 - 69,999	3			
70,000 - 79,999	0	0.00		
80,000 and Above	0	0.00		

Using the information in the Table you have just completed, answer the following questions:

5. In which interval of valuation does the largest percentage of districts fall?

6. How does the distribution of districts compare to the distribution of pupils?

Effort

You have seen that K-12 districts are concentrated near the median per pupil property valuation indicating that the districts are relatively similar in the property value supporting each pupil. However, the lack of significant disparities in wealth by itself is not a reliable indicator of the distribution of locally raised revenue. Disparities in locally raised revenue depend too upon the tax rates districts levy on property wealth.

Table 4 provides summary measures of the tax effort of Michigan's K-12 districts. The highest tax rate, 37.8 mills, is 4.5 times as great as the lowest tax rate of 8.4 mills. The median tax rate is 25 mills.

TABLE 4

SUMMARY MEASURES OF TAX EFFORT
(530 K-12 DISTRICTS, 1975-76)

Type of District	Amount
Highest Tax Rate	37.8
Lowest Tax Rate	8.4
Range (Highest Divided by Lowest)	4.5:1
Median	25.0

Source: Michigan Department of Education. Ranking of Michigan Public High School Districts By Selected Financial Data, 1975-76. Bulletin 1012. (1977).

How are tax rates distributed about this median tax rate? Table 5 shows the distribution of tax rates in the state for 1975-76 and 1972-73. As the table shows, the majority of districts in 1975-76, 80 percent, had a tax rate between 20 and 29.99 mills; 75 percent of all pupils attended schools in these districts. When examining a new school function

plan it is useful to compare the operation of the new plan to the operation of the plan which it replaced. Table 5 also shows the distribution of tax rates for 1972-73, the last year before the operation of the new program. Only 58 percent of the districts had a tax rate between 20 and 29.99 mills; 57 percent of the state's pupils attended school in these districts. 22 percent of the districts had a tax rate between 16 and 19.99 mills. It appears that a large number of the districts in this tax range increased their tax rate in 1975-76.

TABLE 5

COMPARISON OF DISTRIBUTION OF TAX RATES
1972-73 and 1975-76[1]

Operating Tax Rates	1972-73[2] Percent of Districts	1972-73[2] Percent of Pupils	1975-76[3] Percent of Districts	1975-76[3] Percent of Pupils
30 and above	7.62	17.82	10.00	24.25
25 - 29.99	19.00	30.00	36.00	40.00
20 - 24.99	39.00	27.00	44.00	35.00
16 - 19.99	22.02	10.58	9.00	1.19
10 - 15.99	10.43	14.63	3.00	0.08
Under 10	1.82	0.01	1.00	0.04

Thus far you have seen that Michigan has relatively concentrated tax rates and property values. However, the distribution of wealth and tax effort alone do not provide a complete picture of disparities in

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[1] Distributions are based on 604 local school districts in 1972-73; 583 local school districts in 1975-76.

[2] Linne, Henry. Chronological Comparisons of School District Data 1970-1971 to 1974-1975. (Michigan Federation of Teachers, 1975).

[3] Linne, Henry "Analysis of Michigan Public School District Financial Data for 1975-1976." (Michigan Federation of Teachers, 1976).

the revenue raising ability of districts. In order to obtain a more complete picture you need to compare the distributions of tax rates within different ranges of wealth; that is, you need to examine the relationship between tax rates and property values.

Table 6 compares the distribution of wealth and effort of all Michigan school districts in 1975-76. When comparing distributions, it is useful either to display the distributions in terms of equal intervals of values, or in terms of equal numbers of cases. In Table 6, we show a rough approximation of the second method. Approximately the same number of districts fall within each interval of per pupil tax base.

TABLE 6

DISTRIBUTION OF DISTRICTS WEALTH AND EFFORT[1]
583 LOCAL DISTRICTS, 1975-76

Tax Base Per Pupil	Operating Tax Rates 19.99 or less	20.00-24.99	25.00-29.99	30.00 or more	Districts
$39,000 or more	36	31	23	9	99
27,500 - 38,999	9	53	39	15	116
21,500 - 27,499	5	43	50	21	119
16,500 - 21,499	3	74	54	10	141
16,499 or less	1	57	46	4	108
Total Districts	54	258	212	59	583

Source: Linne, Henry. Analysis of Michigan Public School District Financial Data for 1975-76. (Michigan Federation of Teachers, 1976).

[1] Distributions are based on the total number of districts in 1975-76 (583).

When examining Table 6, remember that districts with higher per pupil tax bases and higher tax rates have greater revenue raising ability than those with lower tax bases and tax rates. Comparing the distributions, you can see that most districts fall within two intervals of tax effort, 258 districts levied between 20 and 24.99 mills and 212 districts between 25 and 29.99 mills. These two intervals of tax rates accounted for 81 percent of the districts in 1975-76. However, within each range of tax rate you can see that the districts are fairly evenly distributed in terms of property wealth. Examining the distribution within each range of valuation you see, predictably, that most of the districts within any single range of per pupil tax base have tax rates in the 20-24.99 or 25-29.99 range. Otherwise, no clear patterns emerge; higher per pupil tax bases are not necessarily associated with higher or lower tax rates. However, the table does indicate disparities do exist in local revenue raising abilities.

Equity in the Distribution of Resources

You have seen that Michigan adopts in the abstract the "equal treatment for everyone" definition of equity for the raising of resources for education. In the distribution of resources, too, a plan must adopt a definition of equity. Michigan defines equity in the distribution of resources as "equal treatment for everyone." This definition of equity is translated into practice by distributing the same State Aid per pupil to districts with the same tax effort. State Aid is intended to compensate districts with less ability to raise revenue for the cost of each pupil's education.

Since one goal of Michigan's School Finance Plan is to reduce disparities associated with districts differing abilities to raise revenue,

we need to examine district expenditures. Table 7 summarizes the operating expenditures of Michigan's K-12 districts. The operating expenditures of a district include not only revenue raised locally and basic State Aid but categorical aid. The district with the highest operating expenditure spent three times as much as the district with the lowest level of spending. The disparity between spending levels at the more typical 90th and 10th percentiles is considerably less, $1,452 to $1,018, or a ratio of 1.43:1. Thus, for the majority of Michigan's districts, 80 percent, operating expenditures, like property wealth and tax effort, are relatively concentrated.

TABLE 7

OPERATING EXPENDITURES PER PUPIL
(K-12 DISTRICTS, 1975-76)

High	$2,280
Low	730
90th Percentile	1,452
10th Percentile	1,018
Range (High to Low)	3.12:1
Range (90th to 10th)	1.43:1
Median	1,157

Source: Michigan Department of Education. Ranking of Michigan Public High School Districts By Selected Financial Data, 1975-1976. Bulletin 1012. (1977).

Table 7 suggests that district expenditures are concentrated near the median per pupil spending level. Table 8 shows the distribution of operating revenue for all districts in the state in 1975-76. A district's operating revenue includes locally raised revenue and basic state aid. As Table 8 shows, the largest number of districts have operating revenue

between $1,100 and $1,299; nearly 36 percent of the state's pupils attended schools in these districts.

TABLE 8

DISTRIBUTION OF OPERATING REVENUE
(583 DISTRICTS, 1975-76)

Operating Revenue Per Pupil	Number of Districts	Percent of Districts	Percent of Pupils
$1300 or more	47	8.06	9.28
1100 - 1299	111	19.04	35.86
1000 - 1099	177	30.36	23.715
900 - 999	175	30.02	26.33
836 - 899	42	7.02	3.71
715 - 835	22	3.77	1.085
661 - 714	4	0.69	insig. .01
Below $661	5	0.86	insig. .00
	583		

Source: Linne, Henry. Analysis of Michigan Public School District Financial Data for 1975-76. (Michigan Federation of Teachers, 1976).

Michigan's School Finance Plan is intended to reduce disparities arising from differences among districts in revenue raising ability. We should now look at the relationship between operating revenue and districts ability to support education. You have already seen that district tax bases and tax rates are relatively concentrated. Table 9 shows the average tax base and average tax rate of districts within each range of operating revenue. The table shows that generally, higher average tax bases and tax rates are associated with higher levels of operating revenue.

It is not unusual that districts with higher tax bases and district tax rates have higher levels of operating revenues; these districts are able to raise more revenue locally. However, it is unusual to find higher tax rates associated with higher tax bases. In most states, districts having higher tax bases levy lower tax rates; wealthier districts can generate the same amount of revenue as a poor district by levying a smaller tax rate. As Table 9 shows, this is not the case in Michigan.

TABLE 9

OPERATING REVENUE, TAX BASE PER PUPIL, AND TAX RATE
(583 DISTRICTS, 1975-76)

Operating Revenue Per Pupil	Weighted Average Tax Base Per Pupil	Weighted Average Tax Rate	Number of Districts
$1300 or more	$49,416	29.57	47
1100 - 1299	27,008	29.52	111
1000 - 1099	22,553	25.62	177
900 - 999	22,759	23.80	175
836 - 899	21,681	21.93	42
715 - 835	24,914	19.29	22
661 - 714	21,506	16.87	4
Below 661	38,719	12.13	5

Source: Linne, Henry Analysis of Michigan Public School District Financial Data for 1975-76 (Michigan Federation of Teachers, 1976).

Throughout this chapter we have shown different methods you may find useful for studying disparities in raising and distributing resources for education. However, the way in which you interpret the results of these methods depends upon your own values and judgments about what is fair and equitable in financing education.

APPENDIX A

Guarantees Under the School District Equalization Act

A district power equalizing program was enacted in and went into effect for the 1973-74 school year. For 1973-74 the guarantee was $38 per mill for a tax rate up to 22 mills. For 1974-75 the guarantee was increased to $39 per mill for a tax levy up to 25 mills. For 1975-76, a two tier guarantee was enacted. The guarantee was $42.40 for the first 20 mills and $38.25 for the next 7 mills. For 1976-77 the guarantee was $43.90 for the first 20 mills and $39.60 for the next 8 mills. For 1977-78 the guarantee is $40 per mill for up to 30 mills plus a flat grant of $164. For 1978-79 the guarantee is $40 per mill for up to 30 mills plus a flat grant of $264. In 1978-79 a district can receive state aid for a millage levy above 30 mills if it uses the additional state aid for property tax relief.

Table 1 summarizes the guarantees for the period 1973-74 through 1978-79.

TABLE 1

GUARANTEES TO SCHOOL DISTRICTS

Year	Guaranteed Per Mill	Millage Levy	Flat Grant
1973-74	$ 38.00	22	
1974-75	39.00	25	
1975-76	42.40	First 20	
	38.25	Next 7	
1976-77	43.90	First 20	
	39.60	Next 8	
1977-78	40.00	30	$164
1978-79	40.00	30	264

APPENDIX B

Property Tax Relief System

Michigan's Property Tax Relief System provides a rebate to taxpayers whose property tax exceeds a specified percentage of their income. For most taxpayers, the percentage is 3 1/2 percent of household income. For example, a taxpayer whose household income is $16,000 is entitled to a rebate if his property tax exceeds $16,000 x .035 or $560.

Table 1 shows the calculation of the level that property taxes must exceed for incomes ranging from $5,000 - $45,000.

TABLE 1
ENTITLEMENT TO PROPERTY TAX REBATE

Taxpayer	Household Income	State Set Percent	Amount of Household Income
A	$5,000	3.5	$ 175
B	15,000	3.5	525
C	25,000	3.5	875
D	35,000	3.5	1,225
E	45,000	3.5	1,575

Once the percentage of income has been determined, you compare this amount to the total property tax. If the total property tax is higher than 3 1/2 percent of a particular income, the taxpayer receives a rebate. The property tax above 3 1/2 percent of household income is known as the Excess Property Tax.

$$\text{Excess Property Tax} = \text{Total Property Tax} - (\text{Income} \times .035)$$

Table 2 shows the amount of Excess Property Tax for our five taxpayers in Table 1, assuming that each has a total property tax of $1,000.

TABLE 2
CALCULATION OF EXCESS PROPERTY TAX

Taxpayer	Income	Property Tax	Percent of Income (3.5)	Excess Tax
A	$ 5,000	$ 1,000	$ 175	$ 825
B	15,000	1,000	525	475
C	25,000	1,000	875	125
D	35,000	1,000	1,225	None
E	45,000	1,000	1,575	None

Once you have determined the amount of excess property tax, you can calculate the amount of the state rebate. Under Michigan's Property Tax Relief System, the rebate is a state set percentage of the excess property tax. The state set percentage for 1977-78 is 60 percent.

$$\text{State Rebate} = \text{Excess Property Tax} \times .60$$

To calculate the amount of rebate to a taxpayer, you determine 60 percent of his/her excess property tax . Thus, an individual who has excess property tax in the amount of $500 receives $500 x .60 or $300 from the state as a rebate. Table 3 shows the calculation of the state rebate for our five taxpayers with different household incomes and the same $1,000 property tax.

TABLE 3

CALCULATION OF STATE REBATE: EFFECT ON HOUSEHOLD INCOME

Taxpayer	Income	Excess Property Tax	State Percent	State Rebate
A	$ 5,000	$ 825	60%	$ 495
B	15,000	475	60	285
C	25,000	125	60	75
D	35,000	0	60	0
E	45,000	0	60	0

Note in Table 3:

- All five taxpayers have the same total property tax, $1,000, but have different household incomes.
- The excess property tax is found by subtracting the 3 1/2 percent of household income from the individual's property tax.
- The taxpayers receive 60 percent of the excess property tax as a rebate from the state.
- The smaller the amount of excess property tax, the less the amount of rebate. Individuals with lower household income receive a higher rebate.

Senior Citizens

The Property Tax Relief System contains special provisions for citizens of age sixty five or older. First, senior citizens receive 10 percent of their excess property tax as a rebate. Thus if Taxpayer C in Table 3 were a senior citizen he/she would receive $475 rather than $285 as a rebate from the state. In addition, if senior citizens have an income less than $6,000, the percentage of income which makes them eligible for a rebate is lower. Table 4 shows the percentages for senior citizens. Senior citizens whose income is greater than $6,000 use the same 3 1/2 percent as most taxpayers to determine their rebate. For those whose income is between $4,001 and $5,000, the percentage is smaller, 2 percent or .02. All of the property taxes of senior citizens whose income is $3,000 are refundable.

TABLE 4

PERCENTAGES OF INCOME FOR PROPERTY TAX REBATE (SENIOR CITIZENS)

Household Income	Percent of Income
0 - $3,000	0%
$3,001 - $4,000	1
$4,001 - $5,000	2
$5,001 - $6,000	3
More than $6,000	3.5

Definitions

In order to understand the relief system it is necessary to know the definition of total property and household income.

Total Property Tax

For homeowners, the total property tax is the tax paid on their residence only. Renters may claim 17 percent of their annual rent as their total property tax. Thus, an individual who pays $2,400 a year in rent may claim .17 x $2,400 or $408 as their total property tax. There are special provisions for persons in nursing homes[1] and those who live in mobile home parks [2]

Percent of Household Income

Under Michigan's Property Tax Relief System, an individual or family is entitled to a rebate on their property tax if it exceeds a state set percent of the household income.

An individual's or family's household income includes all of their income that is subject to the federal income tax plus all other income that is exempted by federal law. Among the latter are the commonly exempted sources of income displayed in Table 5.

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[1]Nursing home residents may claim $1,500 or 30 percent of their annual nursing home charges whichever is larger as the equivalent of rent. These individuals then use 17 percent of that amount as their total property tax.

[2]Individuals living in mobile home parks may claim 17 percent of their rent plus $36.

TABLE 5

FEDERALLY EXEMPT INCOME INCLUDED AS HOUSEHOLD INCOME IN MICHIGAN PROPERTY TAX REBATE SYSTEM

Social Security	Child Support Payments
Railroad Retirement	Cash Public Assistance
Veterans Pensions	$300 Gifts in Cash or Kind
Disability Payments	Unemployment Benefits
Other Pensions and Annuities	Unemployment Insurance Benefits
Interest on Tax Free Bonds	Sick Pay
Workmen Compensation Benefits	Strike Pay
Excluded Dividends	

GLOSSARY

CATEGORICAL AID: The provision of state aid for special programs and services delivered by school districts.

CURRENT OPERATING EXPENSES: A descriptive heading under which the basic expenses of a school are grouped. The activities include: instruction, administration, attendance, health, transportation, fixed charges, operation of plant and maintenance of plant.

DISTRICT POWER EQUALIZING: A state aid program which guarantees school districts an equal yield for an equal level of tax effort.

LOCAL REVENUE: Revenue produced within the school district for operating the schools and available to the district in the amount produced. The major source of local revenue in most districts is the general property tax levy.

LOCAL SHARE: The amount of revenue a district must contribute to its State Guarantee per pupil. The Local Share is the district's per pupil tax base multiplied by its tax rate. There is a tax rate limit of 30 mills in determining Local Share.

MUNICIPAL OVERBURDEN: A term used to describe the situation where a districts non-school tax rate is greater than average non-school tax rate in the state, and therefore is considered a disincentive for raising school tax rates to support education.

OPERATING TAX RATE: The tax rate in mills applied to the state equalized valuation of the district to produce revenue for the operation of schools.

STATE AID MEMBERS: The number of pupils legally enrolled at the close of school on the fourth Friday following Labor Day of the school year. The count includes prorated portions of instructional time spent by private school pupils in the public school district.

STATE EQUALIZED VALUATION PER STATE AID MEMBER: The figure represents a calculation made by dividing the taxable value of real estate and personal property (assessed value as finally equalized by the State Tax Commission) in the district, by the number of pupils legally enrolled at the close of school on the fourth Friday following Labor Day of the school year.

STATE GUARANTEE: $40 per mill for a district's tax rate up to 30 mills plus a flat grant of $164 per pupil in 1977-78.

TOTAL GENERAL PURPOSE REVENUE: The sum of district's local revenue raised from its total operating tax rate and basic state aid.

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ANSWER KEY

Exercises on Guaranteed Revenue

Guaranteed Revenue Per Pupil	=	District Tax Rate	=	Guarantee Per Mill ($40)

Exercise #	Calculation
1. c	13/1000 = .013
2. c	$40 x 19 = $760
3. b	1) .014 is equivalent to 14 mills 2) $40 x 14 = $560
4. a	40 x 17.25 = $690
5. b	$40 x 30* = $1,200

*you use 30 mills because there is no guarantee for a tax rate above 30 mills

Exercises on Guaranteed Revenue (Determined by Guaranteed Tax Base)

6. c

$45 x 1000 = $45,000

7. d

$38 x 1000 = $38,000

8. d

1) Guaranteed Tax Base
$40 x 1000 = $40,000

2) Guaranteed Revenue
$40,000 x .016 = $640

9. a

1) Guaranteed tax Base
$40 x 1000 = $40,000

2) Guaranteed Revenue
$40,000 x .030* = $1,200

*you use 30 mills because there is no guarantee for a tax rate above 30 mills.

Exercises on Calculation of State Guarantee

State Guarantee Per Pupil = Guaranteed Revenue Per Pupil + Flat Grant Per Pupil ($164)

Exercise #	Calculation
10. a	1) Guaranteed Revenue = $480 a) .012 is equivalent to 12 mills b) $40 x 12 = $480 2) State Guarantee is Guaranteed Revenue plus Flat Grant of $164 $480 + $164 = $644
11. d	1) Guaranteed Revenue $40 x 18 = $720 2) State Guarantee $720 + $164 = $884
12. d	1) Guaranteed Revenue $40 x 30* = $1,200 *you use 30 mills because there is no guarantee for a tax rate above 30 mills 2) State Guarantee $1,200 + $164 = $1,364

Exercises On Local Share

Local Share Per Pupil	=	District Tax Rate	x	District Tax Base

13. b

$25,000 x .024 = $600

14. d

1) 18 mills is equivalent to .018

2) $60,000 x .018 = $1080

15. a

1) Tax Base Per Pupil

$80,000,000/2,000 = $40,000

2) 24.45 mills is equivalent to .02445

3) $40,000 x .02445 = $978

16. d

1) $100,000 x .030* = $3,000

*you use 30 mills (.030) to calculate the Local Share because the same tax rate limit applies as in the calculation of Guaranteed Revenue.

17. b

1) Tax Base Per Pupil

$30,000,000/1,500 = $20,000

2) $20,000 x .0275 = $550

18. d

1) Tax Base Per Pupil

$90,000,000/4,500 = $20,000

2) $20,000 x .030* = $600

*you use a tax rate of 30 mills (.030) because the same tax rate limit applies as in the calculation of Guaranteed Revenue

Exercises on State Aid

State Aid = State Guarantee - Local Share

Exercise #	Calculation
19. c	$1,024.80 - $440 = $584.80
20. d	1) Local Share .016 x $35,000 = $560 2) State Aid $804 - $560 = $244
21. c	1) State Guarantee = $884 a) Guaranteed Revenue $40 x 18 = $720 b) Guaranteed Revenue plus Flat Grant $720 + $164 = $884 2) Local Share $23,000 x .018 = $414 3) State Aid $884 - $414 = $470

22. a

1) State Guarantee = $804

a) Guaranteed Revenue
$40 x 16 = $640

b) Guaranteed Revenue Plus Flat Grant
$640 + $164 = $804

2) Local Share = $400

a) Per pupil property valuation
$30,000,000/1,200 = $25,000

b) Property valuation times tax rate
$25,000 x .016 = $400

3) State Aid

$804 - $400 = $404

23. b

1) State Guarantee = $1,084

a) Guaranteed Revenue

$40 x 23 = $920

b) Guaranteed Revenue plus Flat Grant

$920 + $164 = $1,084.00

2) Local Share

$26,500 x .023 = $609.50

3) State Aid

$1084.00 - $609.50 = $474.50

24. a

1) State Guarantee = $1364

a) Guaranteed Revenue

$40 x 30* = $1200

*you use 30 mills because there is no guarantee for a tax rate above 30 mills

b) Guaranteed Revenue Plus Flat Grant

$1200 + $164 = $1364

2) Local Share

$36,500 x .030* = $1095

*you use the same tax rate for the Local Share as for the State Guarantee

3) State Aid

$1364 - $1095 = $269

25. b

1) State Guarantee = $1364

a) Guaranteed Revenue

$40 x 30* = $1200

*you use 30 mills because there is no guarantee for a tax rate above 30 mills

b) Guaranteed Revenue Plus Flat Grant

$1200 + $164 = $1364

2) Local Share

$20,000 x 30* = $600

*you use the same tax rate for the local share as for the State Guarantee

3) State Aid

$1364 - $600 = $764

Exercises on Total General Purpose Revenue

26. a

1) Revenue from State Aid Formula

   $1364

2) Additional tax

   45 - 30 = 15 mills

3) Revenue from additional tax

   $30,000 x .015 = $450

4) Revenue from State Aid Formula
   Plus Revenue from Additional Tax

   $1364 + $450 = $1814

27. c

1) Revenue from State Aid Formula = $1364

   a) Guaranteed Revenue

      $40 x 30 = $1200

   b) Guaranteed Revenue Plus Flat Grant

      $1200 - $164 = $1364

2) Additional Tax

   50 - 30 = 20 mills

3) Revenue from Additional Tax

   $25,000 x .020 = $500

4) Revenue from State Aid Formula plus
   Revenue from Additional Tax

   $1364 + $500 = $1864

28. d

1) State Guarantee = $1364

a) Guaranteed Revenue

$40 x 30 = $1200

b) Guaranteed Revenue Plus Flat Grant

$1200 + $164 = $1364

2) Local Share

$60,000 x .030 = $1800

3) State Aid = 0

Local Share is higher than State Guarantee

4) Therefore Total Genegal Purpose Revenue is District Tax Rate multiplied by District Tax Base

$60,000 x .040 = $2400

*U.S. GOVERNMENT PRINTING OFFICE : 1979 O-631-359/2870

29. d

1) State Guarantee = $1364

a) State Guaranteed Revenue

$40 x 30 = $1200

b) Guaranteed Revenue Plus Flat Grant

$1200 + $164 = $1364

2) Tax Base per pupil

$40,000,000/2,000 = $20,000

This district has a tax base below $40,000 and will therefore receive the State Guarantee of $1364.

3) Additional Tax

35 - 30 = 5 mills

4) Revenue from Additional Tax

$20,000 x .05 = $100

5) Revenue from State Aid Formula Plus Revenue from Additional Tax

$1364 + $100 = $1464

30. a

1) Tax Base per pupil

$150,000,000/2000 = $75,000

2) This district has a tax base above the state Guaranteed Tax Base of $40,000

3) Therefore the Total General Purpose Revenue is the District Tax Rate times the District Tax Base

$75,000 x .040 = $3,000